REMARKS

Claims 1 to 20 are pending. Claims 5, 6 and 14 are amended.

Support for the amendment to claim 5 can be found in the specification as originally filed; for example, at page 3, line 29 through page 4, line 2, page 5, lines 8 through 18, and page 10, lines 9 through 21. Support for the amendment to claim 6 can also be found in the specification as originally filed, for example, at page 3, lines 24 through 28, page 4, lines 11 through 18, page 6, lines 10 through 13, page 9, lines 15 through 20, and page 10, lines 9 through 21. Support for the amendment to claim 14 can be found, for example, at page 2, lines 31 through 32, page 4, lines 9 through 10, page 6, lines 26 through 27, page 9, lines 26 through 28, and page 10, lines 9 through 10.

Applicants submit that no new matter has been added through these amendments.

The Applicants acknowledge the Examiner's position that claims 14 and 15 represent allowable subject matter.

§ 112 Rejections

Claims 5 and 6 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 5 has been amended to more clearly specify the identity of the variable X in the context of the second compound.

Claim 6 has been amended to clearly define the variable z in the context of the chemical formula recited.

Applicants submit that the foregoing amendments overcome the rejection of claims 5 and 6 under 35 USC § 112, second paragraph, and respectfully request that the rejection should be withdrawn.

§ 103 Rejections

Claims 1–13 and 16–20 stands rejected under 35 USC § 103(a) as being unpatentable over Invie et al. (U.S. Patent 6,277,485) [hereinafter Invie] in view of Kono (U.S. 2003/0003227) [hereinafter Kono].

Claims 1 and 16 of the present application relate to a method of depositing an antisoiling composition on an antireflective substrate comprising vaporizing an antisoiling composition and depositing the antisoiling composition onto an antireflective substrate. The antisoiling composition is selected from the groups described in claims 1 and 16.

The Examiner asserts that Invie teaches a method of depositing an antisoiling composition on an antireflective substrate wherein the antisoiling composition is selected from the group of compounds recited in claims 1 and 16.

The Examiner admits that Invie fails to teach, suggest or describe that the antisoiling composition is deposited on the antireflective substrate by vapor deposition.

The Examiner notes that Invie describes a variety of deposition techniques including spray coating, dip coating, flow coating, roll coating, etc. The Examiner further asserts that this listing of techniques in Invie indicates that the method of applying the antisoiling composition is not particularly limited.

To overcome the admitted deficiency in Invie, the Examiner applies Kono. The Examiner asserts that Kono teaches a method of depositing an anti-soiling composition, the method comprising vaporizing the antisoiling composition and depositing the vaporized composition onto the antireflective substrate. The Examiner further asserts that the compounds described in Kono are similar to those taught by Invie and therefore one would have both motivation and a reasonable expectation of success in combining Kono and Invie.

The Examiner admits that Kono does not teach the specific compounds claimed by the Applicants, thus making the combination of Kono and Invie critical to the § 103 rejection.

The linchpin of the Examiner's rejection is the assertion that Invie teaches that the deposition technique is not particularly limited. This assertion is, in fact, not true. The teaching of Invie provides no motivation to combine its teachings with those of Kono and further provide no basis for a reasonable expectation of success in the combination. Indeed, Invie teaches away from the proposed combination.

Invie Teaches Away

At column 9, lines 23 through 38, Invie discusses the anti-soiling coating described therein. In particular, Invie states that, to prepare a durable anti-soiling coating, it is necessary to

assure that "sufficient water should be present to cause the formation of such an interaction between the fluorinated siloxane coating and the antireflective surface." The interaction referred to is the formation of covalent Si–O–M bonds through hydrolysis of the silane end groups. See column 9, lines 26 through 34. To this end, Invie teaches that "sufficient water is present for the preparation of a durable coating if the coating method is carried out at room temperature in the atmosphere having a relative humidity of about 30% to about 55%." Column 9, lines 34–38 (emphasis added).

From the above-quoted language, it would have been obvious to one of ordinary skill in the art, in possession of Invie, that the coating method itself requires sufficient water present for curing and that the sufficient water must be present as the coating method is carried out. Invie suggests that this be done: (1) at room temperature; (2) in the atmosphere; (3) at a relative humidity of about 30% to about 55%.

The vapor deposition taught in the present application, however, cannot be carried out "in the atmosphere." Indeed, the vapor deposition process requires by its very nature that it is not carried out in the atmosphere. According to the explicit teachings of Invie, the vapor deposition process described in the present application would not lead to durable anti-soiling coatings. Thus, Invie teaches away from the use of vapor deposition.

No Motivation to Combine

As indicated above, one of ordinary skill in the art, in possession of Invie, would have thought that vapor deposition could not provide a durable anti-soiling coating. Even if said person of ordinary skill were in possession of Kono, the Examiner has not met the initial burden of showing a motivation to combine the vapor deposition teachings of Kono with the anti-soiling compositions of Invie. Invie clearly counsels away from and provides no motivation for such a combination. Furthermore, the explicit teaching in Invie that the deposition be carried out "at room temperature in the atmosphere having a relative humidity of about 30% to 55%", would lead one of ordinary skill in the art to expect vapor deposition of the anti-soiling compositions described therein to fail to provide durable coatings.

As for Kono, the Examiner has not shown where Kono teaches, suggests or describes a method of depositing an antisoiling composition on an antireflective substrate comprising

vaporizing an antisoiling composition selected from the group described in independent claims 1 and 16. The Examiner has shown no motivation within Kono to modify the teachings contained therein to arrive at the method described in independent claims 1 and 16.

Thus, the Applicants respectfully submit that the Patent Office has failed to meet its initial burden of showing a motivation to combine or modify the prior art and thus has not established a prima facie case of obviousness. See MPEP 2143.01 (stating that the "mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination") (quoting In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

No Reasonable Expectation of Success

The discussion above related to Invie teaching away from the methods described in independent claims 1 and 16 is incorporated herein by reference.

One of ordinary skill in the art, in possession of Invie, would expect that, for the preparation of durable anti-soiling coatings, that the coating of an anti-reflective substrate must take place "at room temperature in the atmosphere having a relative humidity of about 30% to about 55%." Column 9, lines 34–38 (emphasis added).

In contrast, the very nature of the vapor deposition described in independent claims 1 and 16 precludes a deposition under the conditions required by Invie. Invie, having clearly taught that coating methods not carried out in the manner therein prescribed would lead to non-durable coatings, gives one of ordinary skill in the art no reasonable expectation of success in vapor deposition.

Accordingly, the Applicants respectfully submit that the Patent Office has failed to meet its initial burden of showing a reasonable expectation of success in the modification/combination suggested by the Patent Office (and not suggested by the prior art) and thus has not established a prima facie case of obviousness. See MPEP 2143.02 (requiring that the predictability of whether the proposed modification or combination has a reasonable expectation of success is determined at the time the invention was made).

The Applicants respectfully submit that the rejection of claims 1 and 16 under 35 USC § 103(a) as being unpatentable over Invie in view of Kono has been overcome and should be withdrawn.

Claims 2–13 and 17–20 each add additional features to claims 1 and 16. Claims 1 and 16 are patentable for the reasons given above. Thus, claims 2–13 and 17–20 are likewise patentable.

In summary, the rejection of claims 1–13 and 16–20 under 35 USC § 103(a) as being unpatentable over Invie in view of Kono has been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 1–20, as amended, at an early date is solicited.

Respectfully submitted,

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